

**ABSTRACT**

A system and methods for indicating formation resistivity anisotropy and evaluating the vertical resistivity component by combining array induction measurements and array laterolog measurements. Formation measurements are obtained with an induction tool and a laterolog tool. Formation parameter data are derived from the induction tool measurements. The laterolog tool response is modeled using the derived formation parameter data. The formation resistivity anisotropy and/or the vertical resistivity component are determined from a comparison of the modeled laterolog tool response against the apparent measurements obtained with the laterolog tool.

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